

# README

xint v1.1a

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Source: `xint.dtx` (v1.1a, 2014/11/07)

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Info: Expandable operations on big integers, decimals, fractions

License: LPPL 1.3c or later

This README is also available as `README.pdf` and `README.html`.

Change log is in `CHANGES.pdf` and `CHANGES.html`.

## Usage

### With LaTeX

```
\usepackage{xint}      % expandable arithmetic with big integers
\usepackage{xintfrac}  % decimal numbers, fractions, floats
\usepackage{xintexpr}  % expressions with infix operators
```

Further packages: `xintbinhex`, `xintgcd`, `xintseries` and `xintcfrac`. All dependencies are handled automatically. For example `xintexpr` automatically loads `xintfrac` which itself loads `xint`. Package `xintcore` is the subset of `xint` providing only the five operations on big integers: `\xintiiAdd`, `\xintiiMul`, ... There is also `xinttools` which is a separate package providing, among others, expandable and non-expandable loops such as `\xintFor`.

### With TeX

One does for example:

```
\input xintexpr.sty\relax
```

Again, all dependencies are handled automatically. The packages may be loaded in any catcode context such that letters, digits, \ and % have their standard catcodes.

`xintcore.sty` and `xinttools.sty` both import `xintkernel.sty` which has the catcode handler and package identifier and defines a few utilities such as `\oodef` or `\xint_dothis/\xint_orthat`.

## Installation

### Method A: using the package manager of your TeX distribution

`xint` is included in [TeXLive](#) (hence also [MacTeX](#)) and [MikTeX](#).

There can be a few days of delay between apparition of a new version on [CTAN](#) and availability via the distribution package manager.

### Method B: manual installation using `xint.tds.zip` and `unzip`

Assumes a GNU/Linux-like system (or Mac OS X).

1. obtain `xint.tds.zip` from CTAN: <http://mirror.ctan.org/install/macros/generic/xint.tds.zip>
2. cd to the download repertory and issue:

```
unzip xint.tds.zip -d <TEXMF>
```

where `<TEXMF>` is a suitable TDS-compliant destination repertory. For example, with TeXLive:

- Linux, standard access rights, hence `sudo` is needed, installation into the “local” tree:

```
sudo unzip xint.tds.zip -d /usr/local/texlive/texmf-local
sudo texhash /usr/local/texlive/texmf-local
```
- Mac OS X, installation into user home folder (no `sudo` needed, and it is recommended to not have a `ls-R` file there, hence no `texhash`):

```
unzip xint.tds.zip -d ~/Library/texmf
```

### Method C: manual installation using `Makefile` and `xint.dtx`

The `Makefile` automatizes rebuilding from `xint.dtx` all documentation files as well as `xint.tds.zip`. It is for GNU/Linux-like (inc. Mac OS X) systems, with a teTeX like installation such as TeXLive. Furthermore the [Pandoc](#) software is required.

1. obtain `xint.dtx` and `Makefile` from <http://www.ctan.org/pkg/xint>.
2. put them in an otherwise empty working repertory, run `make` or equivalently `make help` for further instructions.

### Method D: installation starting with only `xint.dtx`

Run `"tex xint.dtx"` or `"etex xint.dtx"` to extract from `xint.dtx` all packages as well as these files:

**README.md** the current README with Markdown formatting.

**CHANGES.md** the changes across successive releases.

**xint.tex** used to generate `xint.pdf` via `"latex xint.tex"` (thrice) then `"dvipdfmx xint.dvi"`. For successful compilation, packages `newtxtt`, `newtxmath`, `etoc`, `mathastext` are needed. Inclusion of the source code is off by default, but the toggle can be set in `xint.tex`.

It is also possible to compile `xint.tex` with `pdflatex`.

A third option is to generate `xint.pdf` via `pdflatex xint.dtx`. Source code is then included by default.

**Makefile.mk** this is for UNIX-like systems. Note: this file is only produced with `"etex xint.dtx"`, not with `"tex xint.dtx"`. Rename it to `Makefile` and run `make` on the command line for further help.

**doHTMLs.sh** and **doPDFs.sh** these are scripts (for UNIX-like systems) which can be used to convert the `README.md` and `CHANGES.md` to HTML and PDF formats. They require [Pandoc](#).

**pandoctpl.latex** a Pandoc template used by `doPDFs.sh`.

Finishing the installation in a TDS hierarchy:

- move the style files to `TDS:tex/generic/xint/`
- `xint.dtx` goes to `TDS:source/generic/xint/`
- the documentation (`xint.pdf`, `README.md`,...) goes to `TDS:doc/generic/xint/`

Depending on the destination, it may then be necessary to refresh a filename database.

## License

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and version 1.3 or later is part of all distributions of LaTeX version 2005/12/01 or later.

This Work has the LPPL maintenance status `author-maintained`.

The Author of this Work is Jean-Francois Burnol.

This Work consists of the source file `xint.dtx` and of its derived files: `xintkernel.sty`, `xintcore.sty`, `xint.sty`, `xintfrac.sty`, `xintexpr.sty`, `xintbinhex.sty`, `xintgcd.sty`, `xintseries.sty`, `xintcfrac.sty`, `xinttools.sty`, `xint.ins`, `xint.tex`, `README`, `README.md`, `README.html`, `README.pdf`, `CHANGES.md`, `CHANGES.html`, `CHANGES.pdf`, `pandoctpl.latex`, `doHTMLs.sh`, `doPDFs.sh`, `xint.dvi`, `xint.pdf`, `Makefile.mk`.